

CLAIMS

*Sub E!* 1. A method for evaluating a whole effluent sample for the presence of cytotoxic substances comprising the steps of: *Suspected of*

(a) obtaining a sample for testing containing a plurality of potentially cytotoxic substances;

(b) combining a first aliquot of the whole effluent sample directly with a first culture of a particle-feeding flagellate; and

(c) monitoring the growth of the particle-feeding flagellate culture in the presence of the whole effluent sample, wherein a decrease in growth of the culture in the presence of the whole effluent sample is indicative of the presence of cytotoxic agents in the whole effluent sample.

2. The method according to claim 1, wherein the particle-feeding flagellate is *Tetramitus rostratus* in flagellate form.

3. The method according to claim 1, wherein the particle-feeding flagellate is selected from the group consisting of *Chilodenella uncinata*, *Bodo caudatus*, *Cercomonas longicauda*, *Diplonema ambulator*, *Scytonomas pusilla* and *Bodo designis*.

4. The method according to claim 1, wherein a series of dilutions of the whole effluent sample is prepared and each dilution is individually combined with a culture of particle-feeding flagellate to determine a dose response curve.

5. The method according to claim 4, wherein the particle-feeding flagellate is *Tetramitus rostratus* in flagellate form.

6. The method according to claim 4, wherein the particle-feeding flagellate is selected from the group consisting of *Chilodenella uncinata*, *Bodo caudatus*, *Cercomonas longicauda*, *Diplonema ambulator*, *Scytonomas pusilla* and *Bodo designis*.

7. The method of claim 1, further comprising the steps of filtering a second aliquot of the whole effluent sample through a filter having a defined pore size to produce a filtered whole effluent sample from which particulate materials greater in size than the defined pore size have been removed;

combining the filtered whole effluent sample with a second culture of particle-feeding flagellate;

determining the growth of the second particle-feeding flagellate culture in the presence of the filter whole effluent sample; and

comparing the growth of the second particle-feeding flagellate culture in the presence of the filtered whole effluent sample to the growth in the presence of the unfiltered whole effluent sample, wherein a difference in the growth is indicative of the presence of particulate toxic substances in the whole effluent sample.

8. The method of claim 7, wherein a series of dilutions of the filtered whole effluent sample is prepared and each dilution is individually combined with a culture of particle-feeding flagellate to determine a dose response curve.

9. The method according to claim 8, wherein the particle-feeding flagellate is *Tetramitus rostratus* in flagellate form.

10. The method according to claim 7, wherein the particle-feeding flagellate is *Tetramitus rostratus* in flagellate form.

11. The method according to claim 5, further comprising the steps of recovering a particulate fraction from an aliquot of the whole effluent sample;

combining the particulate fraction with a third culture of particle-feeding flagellate;

determining the growth of the particle-feeding flagellate culture in the presence of the particulate fraction; and

comparing the growth of the particle-feeding flagellate culture in the presence of the particulate fraction to the growth in the presence of the unfiltered whole effluent sample.

12. The method of claim 11, wherein a series of dilutions of the particulate fraction is prepared and each dilution is individually combined with a culture of particle-feeding flagellate to determine a dose response curve.

13. The method according to claim 12, wherein the particle-feeding flagellate is *Tetramitus rostratus* in flagellate form.

14. The method according to claim 11, wherein the particle-feeding flagellate is *Tetramitus rostratus* in flagellate form.

15. The method of claim 1, further comprising the step of monitoring the growth of a second culture of particle-feeding flagellate in the presence of the whole effluent and comparing the growth of the first and second cultures, wherein the mean size of the flagellates in the first and second cultures is different.

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